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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/935,661	08/24/2001	Kenji Oshima	2001_1135A	1004

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EXAMINER

SHOSHO, CALLIE E

ART UNIT	PAPER NUMBER
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1714

DATE MAILED: 03/06/2003

8

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/935,661

Applicant(s)

OSHIMA, KENJI

Examiner

Callie E. Shosho

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. It is noted that the substitute specification filed 11/5/01 has been entered given that applicant has provided a statement that the substitute specification includes no new matter and given that applicant has provided a marked-up copy of the substitute specification showing the matter being added to and being deleted from the specification of record.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(a) Claim 1 and 7 each recite dispersant “mainly” consisting of an aliphatic hydrocarbon solvent. The scope of each of the claims is confusing because it is not clear what is meant by “mainly”. How much of the dispersant must consist of aliphatic hydrocarbon solvent in order to be considered “mainly” –90%, 95%, 99%? Can the dispersant contain other substances?

(b) Claims 1 and 7 each recite that R2 is an alkyl group having 4 to 22 carbons and a “derivative thereof”. The scope of the claim is confusing because it is not clear what is meant by “derivative”. What types of compounds are encompassed by this phrase?

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Nicholls et al. (U.S. 5,453,121) taken in view of the evidence in Shibata et al. (U.S. 6,290,764).

Nicholls et al. disclose ink for electrostatic ink jet printing wherein the ink comprises aliphatic hydrocarbon solvent, colorant insoluble in the solvent, i.e. pigment, metal soap such as manganese naphthenate, and polymer including repeating units of alkyl (meth)acrylate such as ethylhexyl acrylate (col.2, lines 1-3 and 59-6, col.3, lines 1-5 and 8 and 16 and 34-35 and 50, and 62-63, col.4, lines 19-25, col.10, line 54-col.11, line 1, and example 5). The aliphatic hydrocarbons include those known under the tradename Isopar which are well known, as found in Shibata (col.10, line 54-col.11, line 1), to possess boiling point of 150-350 °C and volume resistivity of greater than or equal to $10^{15} \Omega\text{cm}$.

Using the specification as a dictionary in order to define ζ potential of the colorant, it is noted that page 14, lines 27-29 of the present specification discloses that it is the metal soap and the polymer that imparts ζ potential to the colorant. Thus, given that Nicholls et al. disclose ink

comprising metal soap and polymer identical to those presently claimed, it is clear that the colorant of Nicholls et al. will inherently possess ζ potential as presently claimed.

In light of the above, it is clear that Nicholls et al. anticipate the present claims.

6. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Baker et al. (U.S. 5,698,616) taken in view of the evidence in Ueda et al. (U.S. 4,051,052).

Baker et al. disclose ink for electrostatic ink jet printer wherein the ink comprises solvent possessing electrical resistivity of greater than $10^{10} \Omega\text{cm}$ such as aliphatic hydrocarbon, polymer including repeating units of alkyl (meth)acrylate such as octadecyl acrylate, colorant insoluble in the solvent, and metal salt of fatty acid wherein the fatty acid includes naphthenic acid (col.5, lines 13-34 and 56, col.9, lines 48-50 and 62-63, col. 10, lines 1-7 and 22-29, col.14, lines 1-4, and col.15, lines 22-35). The aliphatic hydrocarbons include those known under the tradename Isopar G and Isopar H which are well known, as found in Ueda et al. (col.7, lines 38-48), to possess boiling point of 160-177 $^{\circ}\text{C}$ and 174-190 $^{\circ}\text{C}$, respectively.

Using the specification as a dictionary in order to define ζ potential of the colorant, it is noted that page 14, lines 27-29 of the present specification discloses that it is the metal soap and the polymer that imparts ζ potential to the colorant. Thus, given that Baker et al. disclose ink comprising metal soap and polymer identical to those presently claimed, it is clear that the colorant of Baker et al. will inherently possess ζ potential as presently claimed.

In light of the above, it is clear that Baker et al. anticipate the present claims.

7. Claims 1-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Kato (U.S. 6,402,315) taken in view of the evidence in Ueda et al. (U.S. 4,051,052).

Kato discloses ink jet ink for electrostatic ink jet printing wherein the ink comprises solvent possessing electrical resistivity of greater than $10^9 \Omega\text{cm}$ such as aliphatic hydrocarbon, polymer including repeating units of $\text{C}_8\text{-C}_{32}$ alkyl (meth)acrylate, colorant insoluble in the solvent, i.e. pigment, and metal soap which is metal salt of fatty acid having 6 to 24 carbon atoms. There is further disclosed a method wherein mixture of solvent and colorant are added to the polymer and metal solvent. Given that Kato disclose method identical to that presently claimed which utilizes ingredients identical to that presently claimed, it is clear that such method would inherently control the electrostatic charge of the colorant (col.1, lines 5-10, col.3, lines 41-45 and 60-66, col.4, lines 8-9, col.6, lines 26-54, col.7, line 63-col.8, line 9, col.8, lines 22-23, col.26, line 66, col.27, lines 4-11, col.28, line 25, and col.50, lines 57-61). The aliphatic hydrocarbons include those known under the tradename Isopar G, Isopar H, and Shellsol 71 which are well known, as found in Ueda et al. (col.7, lines 38-48 and 55-58), to possess boiling point of $160\text{-}177^\circ\text{C}$, $174\text{-}190^\circ\text{C}$, and $178\text{-}197^\circ\text{C}$, respectively.

Using the specification as a dictionary in order to define ζ potential of the colorant, it is noted that page 14, lines 27-29 of the present specification discloses that it is the metal soap and the polymer that imparts ζ potential to the colorant. Thus, given that Kato disclose ink comprising metal soap and polymer identical to those presently claimed, it is clear that the colorant of Kato will inherently possess ζ potential as presently claimed.

In light of the above, it is clear that Kato anticipates the present claims.

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8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

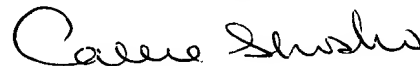
JP 08291267 discloses ink composition comprising dispersant, colorant, and polymer as presently claimed, however, there is no disclosure of metal soap as presently claimed.

Bhattachararya et al. (U.S. 5,744,269) disclose toner comprising dispersant, polymer, and metal soap as presently claimed.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 703-305-0208. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 703-306-2777. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Callie E. Shosho
Examiner
Art Unit 1714

CS
March 3, 2003